

**P.W. GROSSER CONSULTING ENGINEER & HYDROGEOLOGIST, PC  
FIELD REPORT**

REPORT BY: Derek Ersbak  
REVIEWED BY: James Rhodes, CPG

PWGC JOB# RGI1302

SITE: Captain's Cove 1 of 4  
Glen Cove, New York  
DATE: May 08, 2013 (Wednesday)  
TIME: 0730-1630

PRESENT: Derek Ersbak, James Rhodes, Michelle McQueen, Michael Chavarria (PWGC);  
James Occhiogosso, Ellis Koch (Posillico)  
Nicholas DeSanto (Newport Engineering)

WEATHER: Overcast / Cloudy, Intermittent Rain, heavy at times, Temperature of 56°F

EQUIPMENT: (1) Backhoe,  
(1) Photo-Ionization Detector (MiniRAE<sup>2000</sup>),  
(1) Dust Meter (Thermo Electron Corporation - PDR),  
(1) X-Ray Fluorescence Spectrometer (INNOV-X Systems, Alpha Series™ -  
Model α-2000 AS), and  
(1) Scaler Rate Meter (LUDLUM Model 2221r (Meter) & LUDLUM Model 44-  
10 (Detector))

MATERIALS: poly sheeting

DAILY SCOPE OF WORK: Perform two test pits to inspect tiebacks for bulkhead and locate distance to whaler.

PLANS: Excavation Work Plan – Bulkhead Test Pits (September 2012 – PWGC), Quality Assurance Project Plan (March 2013 – PWGC), Radiation Monitoring Plan (Revised March 2013)

**EQUIPMENT CALIBRATION AND BACKGROUND ESTABLISHMENT:**

Photo-Ionization Detector – The meter was calibrated upon arrival at the site. A fresh air calibration was performed in the parking lot of the site. A span calibration utilizing 100 ppm isobutylene was also performed. Readings were taken onsite prior to start of excavation and a reading of 0.0 ppm was established as background. The meter is sensitive to moisture and as it began to rain throughout the day, background levels were re-established periodically and reached a level of 2.7 ppm.

Dust Meter – The meter was calibrated upon arrival at the site. A fresh air calibration was performed in the parking lot of the site. Readings were taken prior to start of excavation and a reading of 0.011 mg/m<sup>3</sup> was established as background. The wind direction was primarily out of the north throughout the day.

X-RAY Fluorescence Spectrometer – The meter was standardized utilizing the accompanying standardization plate in accordance with the meter start up phase. Decision factors of 16 ppm for arsenic and 400 ppm for lead were used for soil disturbed during excavation.

Ludlum Model 2221 Meter – The meter was standardized utilizing the accompanying cesium-137 check source (5μCi). In order to establish background, 20 readings (one minute static counts) were collected from the Gravies' Point Preserve, Trail 5 over an approximate area of one acre. Based upon the readings, a range of 6,390 to 7,915 counts per minute and a mean of 7,324 counts per minute was established as background. Two times background, 14,648 counts per minute, was utilized as a decision factor for soil disturbed during excavation.

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**TEST PIT #1 (Located on eastern portion of bulkhead)**

*Plastic sheeting was set up in two locations adjacent to the excavation area (one for the first two feet and one for the rest of the soils). Tie back was encountered at a depth of approximately 5 feet and traced north to whaler which was encountered approximately 44 feet away from bulkhead. A building foundation was encountered on the north side of the whaler. Radiation levels beneath the building foundation were slightly elevated approaching the decision factor and no further excavation was performed. No decisions factors were exceeded and excavation was backfilled.*

- 0-2 feet (averaged over first two feet)
  - Soil Description – Dry, fine sands, some silt, some gravel, light brown.
  - PID = 0.0 ppm
  - As = <17 ppm
  - Pb =  $63 \pm 7$  ppm
  - RAD = 5,000-6,000 counts per minute
- 2-4 feet (averaged two feet)
  - Soil Description – Dry, fine sands, some silt, trace gravel, reddish-brown.
  - PID = 0.0 ppm
  - As = <13 ppm
  - Pb =  $18 \pm 6$  ppm
  - RAD = 6,000-7,500 counts per minute
- 4-6 feet (averaged two feet)
  - Soil Description – Moist, fine sands, some silt, trace gravel, gray.
  - PID = 0.0 ppm
  - As = <12 ppm
  - Pb =  $17 \pm 6$  ppm
  - RAD = 5,000-6,000 counts per minute
- 4-6 feet (Isolated area underneath building foundation)
  - Soil Description – Moist, fine sands, some silt, trace gravel, gray.
  - PID = 0.0 ppm
  - As = <20 ppm
  - Pb =  $80 \pm 9$  ppm
  - RAD = 12,000 counts per minute

**TEST PIT #2 (Located on western portion of bulkhead)**

*Plastic sheeting was set up in two locations adjacent to the excavation area (one for the first two feet and one for the rest of the soils). Tie back was encountered at a depth of approximately 5 feet and traced north to whaler which was encountered approximately 44 feet away from bulkhead. No decisions factors were exceeded and excavation backfilled.*

- 0-2 feet (averaged over first two feet)
  - Soil Description – Dry, fine sands, some silt, some gravel, dark brown.
  - PID = 0.0 ppm
  - As = <33 ppm
  - Pb =  $164 \pm 15$  ppm

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- RAD = 4,000-6,000 counts per minute
- 2-4 feet (averaged two feet)
  - Soil Description – Dry, fine sands, some silt, trace gravel, light brown.
  - PID = 0.0 ppm
  - As = <18 ppm
  - Pb =  $67 \pm 8$  ppm
  - RAD = 5,000-6,000 counts per minute
- 2-3 feet (Isolated area with odor and staining)
  - Soil Description – Moist, fine sands, some silt, trace gravel, gray-black (Strong organic odor).
  - PID = 0.0 ppm (Bog odor)
- 4-6 feet (averaged two feet)
  - Soil Description – Moist, fine sands, some silt, trace gravel, reddish-brown.
  - PID = 0.0 ppm
  - As = <30 ppm
  - Pb =  $304 \pm 14$  ppm
  - RAD = 5,000-7,000 counts per minute

*Note: Arsenic was not detected in the field screening; however the instrument detection levels varied from 12-30 ppm. The higher detection limits correlate to the concentration of lead detected in the samples. Lead and several other elements interfere directly with the instruments capabilities of detecting arsenic and raises the instruments detection level for arsenic accordingly. However, several of the screened intervals contained low levels of these interfering elements and the meter detection limit was below 16 ppm for arsenic and arsenic was not detected.*

#### COMMUNITY AIR MONITORING

*Community air monitoring was performed in accordance with the protocol established in the Excavation Work Plan. Air monitoring was performed utilizing a photo-ionization detector and dust meter. To establish ambient air background concentrations, air quality monitoring was performed at several locations around the perimeter of the excavation before activities began (0.0 ppm for volatile organic vapors and 0.011 mg/m<sup>3</sup> for particulate dust). Monitoring was performed continuous in the breathing zone and downwind work area perimeter during intrusive activities. Levels did not reach above action levels (>5 ppm for volatile organic vapors and/or >0.1 mg/m<sup>3</sup> for particulate dust) during work activities.*

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Figure 1. View of nature preserve where background was established.

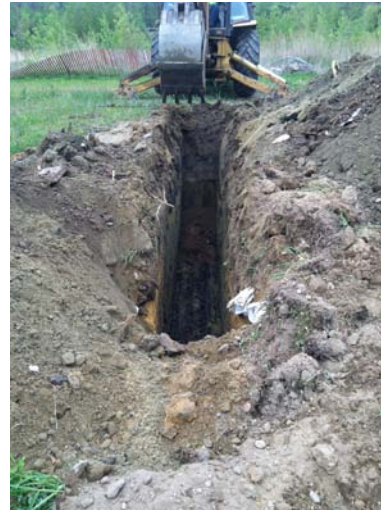


Figure 2. View of test pit 1 completed.



Figure 3. View of stockpile protocol.



Figure 4. View of test pit 2.